Met Office

NEWS

Landmark report stresses urgency of climate crisis

Author: Grahame Madge
09:00 (UTC+1) on Sun 8 Aug 2021

Time is short to avert the worst impacts of climate change, but the report also reminds us there is no scientific reason to delay action.

The latest report from the IPCC published today [Monday 9 August, 2021] stresses the urgency to protect the most ambitious target of the Paris Agreement for global temperature rise to remain below 1.5°C.

Professor Albert Klein Tank is the Director of the Met Office Hadley Centre. He said: "This report paints the starkest picture yet of the global and regional impacts of climate change. Time is short to avert the worst impacts of climate change, but the report also reminds us there is no scientific reason to delay action. The case is clear. More focussed projections of future climate change are making some more optimistic outcomes even more challenging, and that should be a warning to all.

"Both Met Office science and our scientists have played a pivotal role in the development of this latest IPCC report, as we have done for the last 30 years since the production of the IPCC's first report. It is time now for everyone to listen to that science."

The IPCC's Working Group I (WGI)* report highlights that the human influence on the climate is already affecting all regions of the planet and changing the frequency and intensity of weather extremes, from extreme rainfall and associated flooding to more intense and frequent heatwaves. In the longer term rising sea levels and melting ice from glaciers and ice sheets are going to have even more profound impacts.

Professor Stephen Belcher is the Met Office's Chief Scientist and he has been following the climate science for many years. He said: "This latest scientific assessment report paints an alarming picture of the drivers of climate change impacts that are disrupting our planet and society. It confirms that from the edge of space to the ocean depths human-driven climate change is affecting every region of our planet and every part of the climate system.

"In 2015 in Paris, the world came together to agree a commitment to keep global temperature rise below 2.0°C with an additional aspiration to keep below 1.5°C. This latest assessment suggests that without urgent action the opportunity to stay below the 1.5°C threshold is rapidly expiring.

"Over the last three decades the evidence for catastrophic impacts from climate change have been growing stronger and the case for urgent action has been growing stronger. This report is the starkest yet and presents overwhelming evidence to the delegates of the COP26 climate conference in Glasgow in November that without urgent action we won't avoid the worst impacts of climate change."

Science is also guiding us on resilience (adaptation in addition to mitigation).

Key elements from the report

- Overwhelming evidence our climate is changing due to human activities and that this is already driving impacts;
- The window to meet the Paris Agreement goals to limit warming to well below 2.0°C remains open, but the science highlights the urgency and scale of action required;
- The window to meet the Paris Agreement's aspiration to remain below 1.5°C is still open but requires immediate action;
- Advances in climate science research provide the information to better plan an effective response at global and regional levels. This includes limiting future change and making society more resilient to the changes we will see;
- An interactive regional atlas looking highlighting climate impacts is a new feature.

A team of Met Office scientists have been working with peer scientists on the Working Group I report:

Dr Matt Palmer was a lead author for the chapter on Energy Budget and Climate Sensitivity. He said: "We now have a clearer picture of the warming that is occurring throughout the Earth system, from the atmosphere to the deep ocean, due to human-caused greenhouse gas emissions. This observed heating of the climate system has increased in-line with greenhouse gas concentrations and is driving the observed acceleration in sea-level rise since the mid-20th century through increased thermal expansion of the oceans and melting of ice on land. Improved understanding of past climate change and key climate processes has enabled us to refine projections of future warming and sea-level rise compared to previous reports."

The Met Office's Chris Jones was a lead author for the chapter on the Future Global Climate. He said: "The report confirms that human activity is changing our climate here and now – but it also shows we have improved our knowledge of what we can do about it. The future isn't set in stone - urgent action to reduce emissions strongly now will still enable us to avoid the worst impacts that will surely come if we fail to act decisively."

The Met Office's Richard Jones has been the co-ordinating lead author on the Interactive Atlas – a new feature in the report. He said: "The report demonstrates that climate change is currently affecting all regions and will increasingly do so over the coming decades. Each region will experience a diverse and often unique combination of changes in climatic conditions which have the potential to cause impacts affecting people or ecosystems. Over land areas these will always include changes linked to heat and cold, rain and drought and in many cases coastal flooding, wind, snow and more. This focus on impact-relevant changes is a new feature in this Working Group I report. It comes from a significant effort from the IPCC and the authors of its reports to improve collaboration between the working groups. Here it ensures this report is relevant to Working Group II on Impacts, Adaptation and Vulnerability."

Dr Helene Hewitt, of the Met Office, has been the co-ordinating lead author on the chapter covering Oceans, Cryosphere and Sea Level. She said: "This report demonstrates that oceans are continuing to warm, ice is melting and sea level is rising. Many of these changes will not stop immediately if we reduce emissions but they can be slowed down and crucially we will limit the risk of rapid ice loss from Antarctica which otherwise could lead to additional metres of sea level rise over the coming centuries".

Richard Wood, head of the climate, cryosphere and oceans group at the Met Office, said: "As we prepare for the future we need to plan for the most likely impacts of climate change. At the same time, we need to make sure we are resilient to the 'worst case' outcomes, even if those are unlikely. The new IPCC assessment highlights the importance of understanding these 'Low Likelihood, High Impact' risks and how they react to a warming climate."

(*) The Working Group I report is the first edition of a three-part series of reports assessing the impacts of climate change as well as required mitigation and adaptation. Collectively these reports are known as AR6. The other two editions will be published next year. The previous edition (AR5) was published over the course of 2013 and 2014.

Met Office
© Crown Copyright